GRADE : 8

Subject : Physics **Date: 25/06/24**

Chapter-1

Matter

Q.I New words:

1. Static friction
2. Lubrication
3. Resistance
4. Kinetic friction
5. Rough surface
6. Opposing force
7. Stretched
8. Normal force
9. Sliding friction
10. Efficiently

A. Short Answer Questions:

1. Name two processes in which heat is absorbed and released during the change of state of matter.

Ans : Processes: Absorption - Melting, Evaporation; Release - Freezing,

Condensation

2. It is observed that the temperature does not rise after the melting point is reached. Give a reason

Ans : Reason: The temperature does not rise after the melting point is reached because the heat energy supplied is used to overcome the forces of attraction between particles and change the state from solid to liquid.

3. Salt is added as an additive impurity along with ice to keep the kulphies in a solid state.Give a reason.

Ans : Reason: Adding salt lowers the freezing point of water, preventing the kulfi from freezing at normal freezer temperatures. This helps maintain the kulfi in a solid state at a lower temperature.

4. What is Humidity? How does humidity affect the rate of evaporation?

Ans : Humidity: Humidity is the amount of water vapour present in the air. Effect on Evaporation: High humidity reduces the rate of evaporation because the air is already saturated with water vapour, making it more difficult for additional moisture to evaporate into the air.

5. Why do solids require more energy when compared to liquids and gases for the the movement of particles?

Reason: Solids require more energy for particle movement because their

Ans : particles are closely packed in a fixed position. To change their state, not only do solids need to gain kinetic energy for particle movement but also break the intermolecular forces holding them in place.

A. Long Answer Questions.

1. List the main postulates of kinetic theory of matter. Also, explain the three states of matter on the basis of kinetic theory.

Ans : Postulates of Kinetic Theory:

* Matter is composed of particles (atoms or molecules).

* Collisions between particles are elastic.

* kinetic energy of its particles.

* These particles are in constant motion.

States of Matter

Solid: Particles are closely packed, vibrate in fixed positions.

Liquid: Particles are close but can move past each other.

Gas: Particles are far apart, move freely.

2. (a). Why does a gas exert pressure?

Ans : (a) Pressure: Gas exerts pressure due to the constant and random motion of its particles. Collisions with the walls of the container create pressure.

(b). Why does a gas fill a vessel completely?

Ans : Filling Vessel: Gas fills a vessel completely because its particles move rapidly and in all directions, occupying all available space.

(C) Why are gases so easily compressible?

Ans : Compressibility: Gases are easily compressible because their particles are far apart, allowing for compression under pressure.

3. What is evaporation? Describe the factors that effect the process of evaporation.

Ans : Evaporation: Evaporation is the process by which molecules in the liquid State gain energy, become vapour, and enter the gaseous state.

Factors affecting Evaporation: Temperature, surface area, humidity, and wind speed influence the rate of evaporation.

4. It is possible for us to boil a liquid using ice? Why / Why not ? Give a reason to justify your answer.

Ans : No, it is not possible to boil a liquid using ice. Boiling requires the addition of heat, while ice absorbs heat for melting, not providing the necessary energy for boiling.

5. It is possible for us to prevent the sublimation of dry ice by keeping it in our household refrigerator? Give a reason to justify your answer.

Ans : No, placing dry ice in a household refrigerator won't prevent sublimation.Dry ice sublimes at low temperatures, and a regular refrigerator is not cold enough to stop this process.

C. Application Based Questions.

1. During summer vacations, Smriti goes to her village. Therez she observes that villagers are cooking food in open utensils. She suggests them to use pressure cooker instead of open utensils to save fuel and time.

Ans : (a) Pressure cooker cooks food faster and hence saves fuel and time.

(b). In a pressure cooker, pressure is increased by keeping the water vapour inside the cooker. It increases the boiling point of water to about 120 °C. Thus,food inside the pressure cooker gets sufficient This makes the cooking easier.

2. Your younger brother wants to wear his favourite shirt in a party but it is still wet after a wash. Suggest to him ways that he should take to dry it faster.

The temperature of a substance is proportional to the average

(iii) increasing the temperature

(ii) increasing the speed of wind

(i) increasing the surface area

Because the rate of evaporation can be increased by:

(i) By repeatedly ironing the shirt

(ii) By spreading the shirt under the fan

(iii) By spreading the shirt under the Sun

Teachers Signature **Principal Signature**